

WHAT IS CLAIMED IS:

1. Highly oriented polyolefin fiber containing polyolefin with an intrinsic viscosity (in decalin at 135 °C) of at least 5 dl/g, which fiber has a tensile strength of at least 26 cN/dtex and a modulus of tension of at least 700 cN/dtex, wherein the fiber contains 0.05-5 wt. % of a solvent for the polyolefin (relative to the total fiber weight) and wherein the fiber has a creep, defined as the elongation as a percentage of the original length after 5 hours under a load of 8.11 gr/dtex at 50 °C, of at most 10%.
2. Highly oriented polyolefin fiber according to claim 1, wherein the polyolefin is polyethylene.
3. Highly oriented polyolefin fiber according to claim 2, wherein the creep is at most 5%.
4. Highly oriented polyolefin fiber according to claim 3, wherein the polyethylene is a copolymer with more than 2 short side chains per 1000 carbon atoms.
5. Highly oriented polyolefin fiber according to claim 3, wherein the polyethylene is a copolymer with more than 2 short side chains per 1000 carbon atoms.
6. Highly oriented polyolefin fiber according to claim 1, wherein the χ - parameter of the solvent for the polyolefin is lower than 0.5.
7. Highly oriented polyolefin fiber according to claim 2, wherein the χ - parameter of the solvent for the polyolefin is lower than 0.5.
8. Highly oriented polyolefin fiber according to claim 3, wherein the χ - parameter of the solvent for the polyolefin is lower than 0.5.
9. Highly oriented polyolefin fiber according to claim 1, wherein the solvent is non-volatile.

10. Highly oriented polyolefin fiber according to claim 2, wherein the solvent is non-volatile.
11. Highly oriented polyolefin fiber according to claim 3, wherein the solvent is non-volatile.
12. Highly oriented polyolefin fiber according to claim 1, wherein the solvent is a paraffin oil.
13. Highly oriented polyolefin fiber according to claim 2, wherein the solvent is a paraffin oil.
14. Highly oriented polyolefin fiber according to claim 3, wherein the solvent is a paraffin oil.
15. Highly oriented polyolefin fiber according to claim 1, wherein the fiber contains 0.1-2 wt. % of the solvent.
16. Highly oriented polyolefin fiber according to claim 2, wherein the fiber contains 0.1-2 wt. % of the solvent.
17. Highly oriented polyolefin fiber according to claim 3, wherein the fiber contains 0.1-2 wt. % of the solvent.
18. Highly oriented polyolefin fiber according to claim 1, wherein the fiber has a fineness of less than 5 denier per filament.
19. Highly oriented polyolefin fiber according to claim 2, wherein the fiber has a fineness of less than 5 denier per filament.
20. Highly oriented polyolefin fiber according to claim 3, wherein the fiber has a fineness of less than 5 denier per filament.
21. Rope comprising highly oriented polyolefin fibers according to claim 1.

- 22. Rope comprising highly oriented polyolefin fibers according to claim 2.
- 23. Rope comprising highly oriented polyolefin fibers according to claim 3.
- 24. Anti-ballistic shaped article comprising highly oriented polyolefin fibers according to claim 1.
- 25. Anti-ballistic shaped article comprising highly oriented polyolefin fibers according to claim 2.
- 26. Anti-ballistic shaped article comprising highly oriented polyolefin fibers according to claim 3.